

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-6 in the replies filed on 7/6/2009 and 7/30/2009 are acknowledged. The traversal is on the ground(s) that the PCT Rule 13.2 does not require that the limitations of both inventions be coextensive but that there be a single inventive concept. This is not found persuasive because Groups I and II lack unity of invention as indicated in the restriction requirement mailed 6/3/2009. Group II recites special technical features that make it a separate inventive concept from Group I. For example, the width of the sheet separator material is at least as long as the length of the cylindrical portion is only recited in Group II. Other such examples can be found in the claim sets and thus, a single inventive concept is not present among the claim sets.

The requirement is still deemed proper and is therefore made FINAL.

Claims 7-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the replies filed on 7/6/2009 and 7/30/2009.

Claim Rejections - 35 USC § 102/35 USC § 103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness

4. Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over Haruhisa et al. (JP Patent Publication 07245091).

Regarding claim 1, Haruhisa discloses a cylindrical separator for an alkaline battery that has a cylindrical body (see Figure 5 and paragraph 8). The separator paper is wound onto the winding core pin (“mandrel”) as multiple layer paper (paragraph 8), thus giving it a “plurality of turns.” Figure 4 illustrates that the bottom part closes a first end of the cylindrical body and is formed as an extension of the cylindrical body (see also paragraph 8). The bottom separator paper is rotated to push onto the special shape die form the wet bottom (paragraph 8). It is then dried and fused (abstract).

Claim 1 is a product-by-process claim as it has product-by-process claim language. The product-by-process claim language follows:

“...wherein said bottom part being formed from the extension of said cylindrical body when being rotated in a wetted state, and fused by a heated die, characterized in that said wetted state is provided by the spraying of a predetermined amount of liquid, and said folding is provided by a gradual deformation in said rotating state proceeding from the edge towards the central zone by moving said rotating body along a stationary forming groove profiled gradually to the required shape of said bottom part, wherein a support is provided at the interior of said body having a support surface defining said required shape and said supporting surface and said profiled groove defining together a narrow space for said bottom part.”

The cited prior art teaches all of the positively recited structure of the claimed apparatus or product. The determination of patentability is based upon the apparatus structure itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113). Since Haruhisa’s separator is similar to that of the Applicant’s, Applicant’s process is not given patentable weight in this claim.

Regarding claim 2, Haruhisa discloses that the separator has two layers of synthetic cloths or non woven cloths (“plurality of sheets”) that are fed and wound onto a winding core pin as multiple layer paper (paragraph 8).

Regarding claim 4, Haruhisa discloses that the separator paper is fed into a winding core pin as multiple layer paper (paragraph 8). As such, the turns are not affixed to each other (see Figure 3).

Regarding claim 6, Haruhisa discloses that the shaped bottom is pushed onto a heated die to be dried and heat bonded, and is then fused before insertion into the cell (abstract and paragraphs 8 and 9).

Claim 6 is considered a product-by-process claim. The cited prior art teaches all of the positively recited structure of the claimed apparatus or product. The determination of patentability is based upon the apparatus structure itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haruhisa et al. (JP Patent Publication 07245091) as applied to claims 1, 2, 4 and 6, and further in view of Devitt et al. (US Patent 3,897,266).

Regarding claim 3, Haruhisa discloses that the separator has two layers of synthetic cloths or non woven cloths (“plurality of sheets”) that are fed and wound onto a winding core pin as multiple layer paper (paragraph 8). Haruhisa does not disclose that one of the layers is a semi-permeable membrane and cellophane.

Devitt discloses a multi-layer separator in which a semi-permeable membrane such as cellophane may be placed next to the separator layer to attenuate dendritic growth and prevent metallic conduction between positive and negative plates (column 5, lines 50-55).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the separator layer of Haruhisa to include at least one layer of a semi-permeable membrane and cellophane as taught by Devitt as this attenuates dendritic growth and prevents metallic conduction between positive and negative plates (Devitt, column 5, lines 50-55). Additionally, the selection of a known material, which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) (see MPEP § 2144.07).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haruhisa et al. (JP Patent Publication 07245091) as applied to claims 1, 2, 4 and 6, and further in view of Daniel-Ivad et al. (US Patent 6,361,899 B1) and Tomantschger et al. (US Patent 5,300, 371).

Regarding claim 5, Haruhisa does not disclose a thermoplastic sealant arranged at the central zone on the outside of said bottom part; however, Daniel-Ivad discloses an alkaline cell where the contact zone between the bottom of the separator 20 and the washer is sealed by the application of a controlled amount of a hot melt or a similar thermoplastic sealant (column 3, lines 15-23). Additionally, Tomantschger discloses an alkaline cell in which a thermoplastic sealant may be applied to the bottom of the separator to prevent electrical contact between the negative electrode and the cell container or can (column 13, lines 1-9).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify the cell of Haruhisa to include a thermoplastic sealant at the central zone on the outside of the bottom part as taught by Daniel-Ivad or Tomantschger in order prevent electrical contact between the negative electrode and the cell container (Tomantschger, column 12, lines 1-9).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMANDA BARROW whose telephone number is (571)270-7867. The examiner can normally be reached on 7:30am-5pm EST. Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AMANDA BARROW/
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